



U.S. Fish & Wildlife Service

Loggerhead Shrike

Status Assessment

November 2000



Prepared by:
Lori Pruitt
U.S. Fish and Wildlife Service
Bloomington, IN

For more information contact:
U.S. Fish and Wildlife Service
Nongame Bird Coordinator
Federal Building, 1 Federal Drive
Fort Snelling, MN 55111-4056

LOGGERHEAD SHRIKE STATUS ASSESSMENT

Prepared by:

**Lori Pruitt
U.S. Fish and Wildlife Service
620 South Walker Street
Bloomington, IN 47403-2121**

November 2000

ACKNOWLEDGMENTS

I gratefully acknowledge the efforts of many individuals who contributed to this status assessment. More than 100 people from State and Provincial agencies, the U.S. Fish and Wildlife Service (USFWS), the Canadian Wildlife Service, universities, and private organizations provided information for this status assessment, without which this report could not have been completed. Many individuals reviewed all or portions of the draft assessment, and their efforts resulted in significant improvements to the final document. I especially appreciate the efforts of James Herkert (Illinois Endangered Species Protection Board), Carola Haas (Virginia Polytechnic Institute), and Stephanie Jones (USFWS Region 6 Nongame Bird Coordinator) for their extensive review of the draft assessment. Georgia Parham (USFWS Region 3 Ecological Services Outreach Coordinator) provided valuable editorial advice. Richard Banks (National Museum of Natural History) was generous in sharing his expertise and assisted in the assessment of shrike systematics. All of the USFWS Regional Nongame Bird Coordinators provided assistance throughout the process of conducting this status assessment.

Special thanks to Steve Lewis (USFWS Region 3 Nongame Bird Coordinator) and Scott Pruitt (USFWS Bloomington Field Office Acting Supervisor) who provided input, review, and encouragement for over two years while this assessment was in progress.

Funding for this project was provided by the USFWS's Migratory Bird and Ecological Services Programs.

TABLE OF CONTENTS

SUMMARY	1
INTRODUCTION	2
DISCLAIMER	3
SYSTEMATICS	4
NAMES	7
DISTRIBUTION	7
BREEDING RANGE	7
WINTER RANGE	8
CHANGES IN DISTRIBUTION	9
RANGES OF SUBSPECIES	11
PHYSICAL DESCRIPTION, SONG, AND GENERAL BEHAVIOR	11
HABITAT	13
BREEDING SEASON HABITAT REQUIREMENTS	13
WINTER HABITAT REQUIREMENTS	15
BIOLOGY	15
MIGRATION	15
REPRODUCTIVE BIOLOGY	16
Courtship, Nesting, Incubation, Fledging	16
Productivity and Survival	18
Territory Size	21
Site Reoccupancy and Site Fidelity	23
FORAGING ECOLOGY	25
Impaling Behavior	25
Vegetation Height in Foraging Areas	25
Perches	26
Food Habits	28
WINTER ECOLOGY	29
POPULATION STATUS AND TRENDS	31
NORTH AMERICAN BREEDING BIRD SURVEY	31
NATIONAL AUDUBON SOCIETY CHRISTMAS BIRD COUNTS	33
STATUS OF LOGGERHEAD SHRIKE SUBSPECIES	33
LEGAL STATUS IN THE U.S., CANADA, AND MEXICO	36
THREATS	36
PRESENT OR THREATENED HABITAT LOSS	37
Breeding Habitat	37
Wintering Habitat	40
Future Habitat Conditions for Loggerhead Shrikes	41

OVERUTILIZATION	42
DISEASE OR PREDATION	43
INADEQUACY OF EXISTING REGULATORY MECHANISMS	44
OTHER NATURAL OR MANMADE FACTORS	45
Pesticides	45
Collisions with Vehicles	48
Weather	49
Interspecific Competition	50
CONCLUSIONS REGARDING THREATS TO LOGGERHEAD SHRIKES	50
MANAGEMENT AND RESEARCH	51
MANAGEMENT NEEDS AND ISSUES	52
Management in the Eastern and Midwestern U.S.	52
Management in the Western U.S.	55
Concentrate Management Efforts on Occupied Sites	56
Management of Roadside Habitats	56
RECOVERY PLANNING AND IMPLEMENTATION	57
San Clemente Loggerhead Shrike Recovery Plan	57
State Recovery Efforts	58
Canada's Recovery Plan	59
International Cooperation	60
PRIORITIES FOR RESEARCH AND CONSERVATION	61
Underlying Causes of Shrike Declines	61
Ecology of Shrikes Outside the Breeding Season	61
Biosystematic Analysis	62
Communication Network	62

TABLES AND FIGURES

Table 1. Primary habitat and the species of woody plants selected for nest sites by the loggerhead shrike, as documented in studies across the species' range.	63
Table 2. Productivity of loggerhead shrikes as documented in studies across the species' range.	65
Table 3. State status, Breeding Bird Survey (BBS) trends, and Christmas Bird Count (CBC) trends for the loggerhead shrike in the continental United States.	66
Table 4. Threats to loggerhead shrike populations reported by state natural resource agencies and/or species experts.	68
Figure 1. Breeding ranges of 11 subspecies of loggerhead shrike (<i>Lanius ludovicianus</i>) based on Miller (1931).	70

LITERATURE CITED	71
-------------------------------	----

APPENDIX I: SUMMARIES OF RESPONSES TO THE LOGGERHEAD SHRIKE STATUS ASSESSMENT QUESTIONNAIRE IN THE UNITED STATES AND CANADA.	87
---	----

REGION 1: California, Idaho, Nevada, Oregon, Washington	88
---	----

REGION 2: Arizona, New Mexico, Oklahoma, Texas	95
--	----

REGION 3: Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, Ohio, Wisconsin	101
--	-----

REGION 4: Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee	115
---	-----

REGION 5: Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, Virginia, West Virginia	128
--	-----

REGION 6: Colorado, Kansas, Montana, Nebraska, North Dakota, South Dakota, Utah, Wyoming	144
---	-----

CANADA	155
--------------	-----

APPENDIX II: LOGGERHEAD SHRIKE STATUS ASSESSMENT QUESTIONNAIRE AND LIST OF CONTACTS	160
--	-----

ACRONYMS USED

AOU	American Ornithologists' Union
BBA	Breeding Bird Atlas
BBS	North American Breeding Bird Survey
BLM	U.S. Bureau of Land Management
CBC	National Audubon Society Christmas Bird Count
CEC	Commission for Environmental Cooperation
COE	U.S. Army Corps of Engineers
COSEWIC	Committee on the Status of Endangered Wildlife in Canada
CRP	Conservation Reserve Program
ESA	Endangered Species Act of 1973
MBTA	Migratory Bird Treaty Act of 1918
NEPA	National Environmental Policy Act of 1969
PIF	Partners in Flight
USFWS	U.S. Fish and Wildlife Service
WC:TL	Wing-chord to tail-length ratio

SCIENTIFIC NAMES OF PLANTS REFERENCED IN TEXT

Wyoming big sagebrush	<i>Artemisia tridentata wyomingensis</i>
(big) sagebrush	<i>Artemisia tridentata</i>
caragana	<i>Caragana</i> spp.
(netleaf) hackberry	<i>Celtis reticulata</i>
hawthorn	<i>Crataegus</i> spp.
Russian olive	<i>Elaeagnus angustifolia</i>
honeylocust	<i>Gleditsia triacanthos</i>
juniper	<i>Juniperus</i> spp.
eastern red cedar	<i>Juniperus virginiana</i>
creosote bush	<i>Larrea tridentata</i>
osage orange	<i>Maclura pomifera</i>
apple	<i>Malus</i> spp.
white mulberry	<i>Morus alba</i>
mock orange	<i>Philadelphus lewisii</i>
spruce	<i>Picea</i> spp.
loblolly pine	<i>Pinus taeda</i>
slash pine	<i>Pinus elliotii</i>
cottonwood	<i>Populus deltoides</i>
mesquite	<i>Prosopis</i> spp.
American plum	<i>Prunus americana</i>
(antelope) bitterbrush	<i>Purshia tridentata</i>
shingle oak	<i>Quercus imbricaria</i>
multiflora rose	<i>Rosa multiflora</i>
(sawtooth) blackberry	<i>Rubus betulifolius</i>
cabbage palm	<i>Sabal palmetto</i>
willow	<i>Salix</i> spp.
greasewood	<i>Sarcobatus vermiculatus</i>
sassafras	<i>Sassafras albidum</i>
thorny buffaloberry	<i>Sheperdia argentea</i>
eastern white cedar	<i>Thuja occidentalis</i>
elm	<i>Ulmus</i> spp.
Chinese elm	<i>Ulmus pumila</i>
yucca	<i>Yucca</i> spp.